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AN INDEX OF THE PREVALENCE OF DENTAL CARIES IN SCHOOL CHILDREN [1]

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Demands for data on the prevalence and incidence of dental caries in school children have increased markedly during recent years. These data are being used for two major purposes: First, to determine the dental service needs of a particular community, and second, to supply basic information for epidemiological studies of dental caries.

The most serious obstacle to the collection of such data has been the requirement that they be derived from detailed individual dental examinations. Few communities have available personnel experienced in making and recording dental examinations on a mass survey basis. Further, the task of analyzing the records to establish appropriate rates is of itself a relatively elaborate and time-consuming job. It becomes of practical importance, therefore, to investigate the possibilities of obtaining estimates of the prevalence of dental caries by means of abbreviated examination methods and the use of a simple index.

Although several indexes of dental caries have been presented (*1*, *2*, *3*), these have been concerned largely with measuring the incidence in individuals through the use of serial observations. Further, no one of these can be considered simple, since they depend on repeated detailed examinations of the teeth or of the saliva of each individual studied. They are indexes of individual susceptibility to dental caries during a given time period. This paper is concerned with the problem of obtaining an index of the prevalence of dental caries among school children of a given community at a specific time.

Evidence is to be presented here which indicates that there is a high degree of association between the age-specific caries prevalence rate in permanent teeth of school children and the proportion of children in the group who have experienced caries of one or more permanent teeth. The establishment of this correlation makes it possible to derive an equation expressing the relationship between these two

[1] From Child Hygiene Studies, Division of Public Health Methods.

variables. The derived equation will permit passing directly from the proportion of children with at least one carious permanent tooth to the average number of carious permanent teeth per child. The task of determining age-specific prevalence rates of dental caries in the permanent teeth of school children is thus simplified.

MATERIAL AND METHODS

Data on the age-specific prevalence of dental caries in school children of several communities have been collected by the United States Public Health Service during recent years. Details of the methods used in collecting and processing these data have been presented in previous publications (*4*, *5*, *6*). The number of children, the proportion of children with one or more carious permanent teeth, and the average number of carious permanent teeth per child are presented by age and community in table 1. Only that portion of the original data which is useful for the purposes of the present discussion is given in the table. As a measure of the prevalence of dental caries, we shall use the number of decayed, missing, or filled permanent teeth per child, which will be referred to henceforth as the number of DMF permanent teeth.

TABLE 1.—*Number of children, number of decayed, missing, or filled (DMF) permanent teeth per child, and percentage with one or more DMF permanent teeth, by age, for specified groups of school children*

Item	Age last birthday									
	6	7	8	9	10	11	12	13	14	15
Hagerstown, Md. (white):										
Number of children	327	403	487	493	529	531	596	565	695	651
DMF teeth per child	0.29	0.73	1.20	2.02	2.51	2.84	3.66	4.55	5.62	6.64
Percent with DMF teeth	15.9	36.2	53.4	70.6	78.3	81.9	87.8	91.2	94.8	95.4
Eastern Health District, Baltimore, Md. (white):										
Number of children	78	118	148	137	135	107	58	------	------	------
DMF teeth per child	0.49	0.86	1.59	2.12	2.53	3.11	3.81	------	------	------
Percent with DMF teeth	23.1	39.0	66.9	81.0	84.4	91.6	93.1	------	------	------
Eastern Health District, Baltimore, Md. (Negro):										
Number of children	164	199	233	240	213	138	85	------	------	------
DMF teeth per child	0.26	0.59	0.93	1.38	1.65	1.80	2.24	------	------	------
Percent with DMF teeth	14.6	34.2	48.5	57.9	66.2	68.1	72.9	------	------	------
Nicollet County, Minn. (white):										
Number of children	259	252	276	282	276	265	289	231	159	------
DMF teeth per child	0.51	1.43	2.30	2.86	3.39	4.16	5.50	6.32	7.69	------
Percent with DMF teeth	24.3	53.6	75.7	84.0	86.2	89.8	92.7	95.2	94.3	------
Sibley County, Minn. (white):										
Number of children	176	212	241	267	263	245	246	259	207	------
DMF teeth per child	0.56	1.36	2.03	2.68	3.24	4.62	4.97	5.65	6.82	------
Percent with DMF teeth	29.0	57.1	68.5	77.2	85.6	87.3	88.6	93.0	92.8	------

An examination of the data in table 1 reveals that for each separate group of children studied both the proportion of children with one or more DMF permanent teeth and the average number of DMF permanent teeth per child increase rather uniformly and directly with age. However, the rates at which these increases take place show wide

differences for children of different communities and for children of different color within the same community. For example, from age 6 to age 12 the percentage of children with one or more DMF permanent teeth increases from 24.3 to 92.7 in Nicollet County, Minn. (among white children), and from 14.6 to 72.9 in Baltimore, Md. (among Negro children). Over this same age interval, the average number of DMF permanent teeth per child increases from 0.51 to 5.50 in Nicollet County children and from 0.26 to 2.24 in Baltimore Negro children.

The association between the percentage of children with one or more DMF permanent teeth and the average number of DMF teeth per child may be studied with advantage by graphic methods. A plot of the paired values by age was made for each group of children on arithmetic graph paper. Free-hand curves were then drawn to fit as nearly as possible the points indicating the relation of the two variables for each group of children. These showed a marked orderliness and a striking tendency to assume a common pattern and position on the respective graphs. The five diagrams were, therefore, superimposed in a single graph which is reproduced herein as figure 1. It will be noted that, with the exception of the upper part of the curve for white children of Baltimore, Md., the several curves assume a pattern that is quite uniform and suggestive of homogeneity. Aside from the exception just noted, the deviations from a common trend appear to be no greater than must ordinarily be expected from sampling variation alone.

These data on the prevalence of dental caries were obtained in a manner which would appear to make them liable to systematic errors of personal judgment as well as random errors of observation. The seemingly discrepant data for white children of Baltimore are, however, difficult to explain satisfactorily on these grounds alone. The fact that roughly one-third of the Baltimore children were selected for dental examination because of a previous history of attendance at the Eastern Health District dental clinic introduces a selective factor which was not present in the other groups. It seems possible that this factor may be the source of bias affecting this group.

Because the complete series of observations took the form of a smooth curve, an equation was sought which would describe the entire range of observation. Children aged 5 years and younger are usually characterized by none of them having one or more carious permanent teeth. Regardless of age, a value of zero for one variable automatically stipulates a value of zero for the other. Therefore, one of the logical requirements of a satisfactory equation is that it pass through the origin. It is also known that not all persons experience attack on their permanent teeth by dental caries. The most frequent figures quoted on the experience of attack range from 95 to 98 percent.

This suggests that a second requirement of the equation be that it have an upper asymptote somewhere between 95 and 98 percent. These requirements together with the general pattern of the curve suggest that some form of saturation curve such as the catalytic might be most likely to fit the observations.

The general formula for the catalytic curve passing through the origin may be written as $K-y=KB^x$, where x and y are variables and

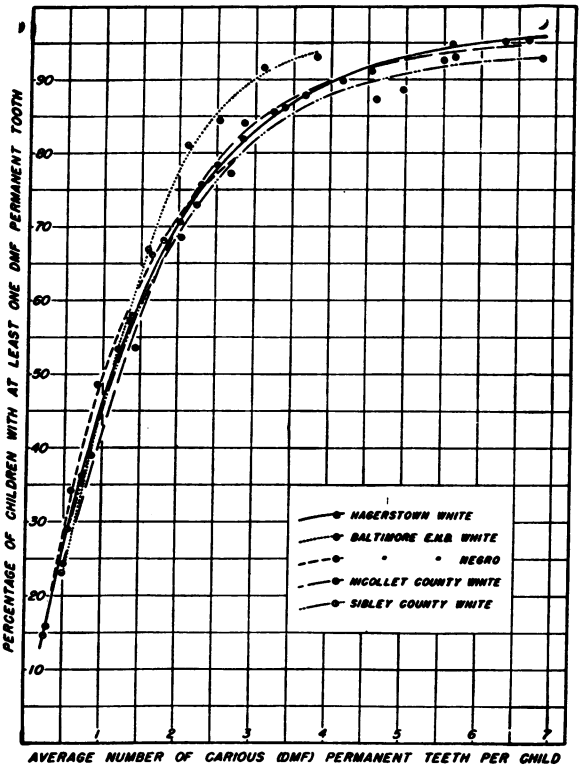

FIGURE 1.—The relationship in five communities between presence of caries in the permanent teeth of school children and the average number of such teeth affected. Values determined by single year age classes starting at 6 years, and graduated by free-hand curves.

K and B are constants. Translated into terms of the present problem, y represents the proportion of children with one or more DMF permanent teeth, x represents the average number of DMF teeth per child, K represents the upper limit of y as x approaches infinity, and B is the constant proportion by which $K-y$ is changed per unit change in x. It is a characteristic of the curve that $K-y$ values plotted against corresponding x values on arithlog paper give a straight line relationship. This characteristic is useful in judging whether observed material can be fitted by this curve as well as in estimating the values of the constants.

The data for the Hagerstown (Maryland) children were plotted on arithlog paper using successive trial values of K of 95, 96, 97, and 98 percent. The Hagerstown data were selected because: First, their trend approximates the central tendency of the several curves; second, the numbers of children on which the age-specific rates are based are much larger than those for any one of the other groups of children; third, selecting one such typical group avoids the problems of the

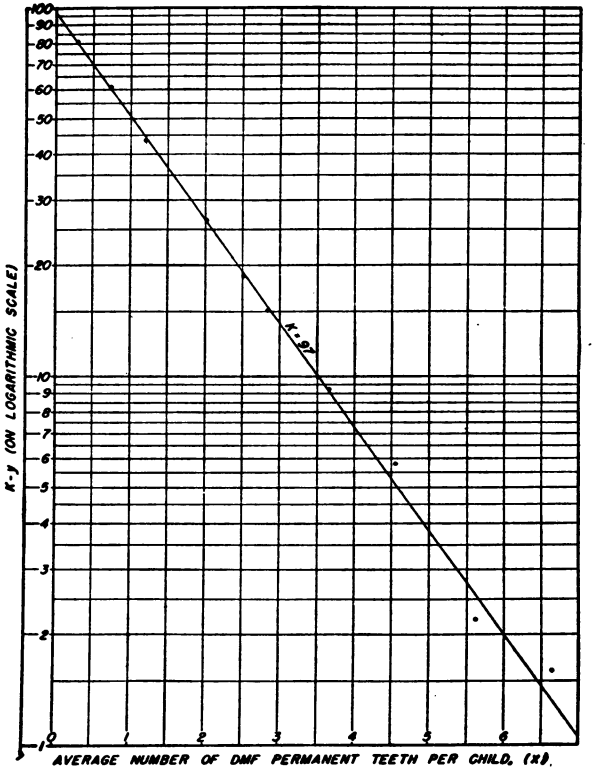

FIGURE 2.—Fitting the "catalytic" equation to the Hagerstown series, using the straight line relationship between log $(K-y)$ and x. $K=97$, and y=percent of children showing evidence of at least one carious permanent tooth.

bias indicated in the Baltimore group; and fourth, the data for the other groups can be used to test the adequacy of the fitted curve in giving predicted values. For a K value of 97 percent the points fell quite well along a straight line on arithlog paper, as is shown in figure 2, and therefore this form of equation was judged satisfactory and this estimate of K accepted.

The value of B may be determined either by precision mathematical methods, such as the method of least squares, or by estimation. It should be pointed out that the method to be employed and the type of deviation to be minimized depend upon whether y is to be predicted from x, or x from y. However, if the observations are very close

to the curve, as in our case, this issue becomes a minor one, and any one of several methods will lead to essentially the same result. A simple method of estimation was used here by taking a convenient point on the straight line drawn to fit the values in figure 2 and solving for B. We find when $K-y$ is 2, then x is 6. Substituting these values in the equation $K-y=KB^x$ and solving gives $B=0.524$.

The theoretical curve calculated to cover the range of observations under consideration is presented in figure 3. The goodness of fit is

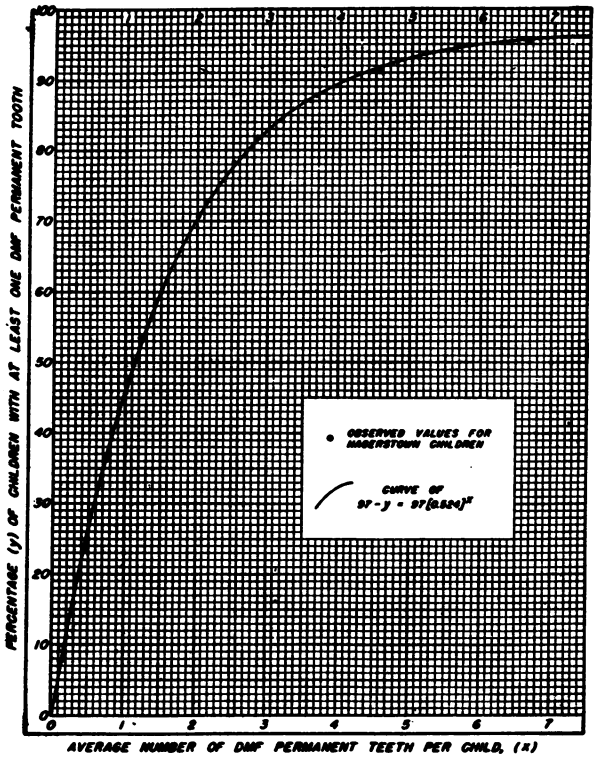

FIGURE 3.—A graph for estimating the average number of DMF permanent teeth per child from the determined percentage of children showing evidence of at least one such carious tooth.

indicated by the manner in which the observed points for the Hagerstown group fall along this curve. The conclusion is that the relationship between the percentage of children with one or more carious permanent teeth and the average number of carious permanent teeth per child is well described by the catalytic equation $97-y=97\ (0.524)^x$ where y is the percentage of children of a specific age whose permanent teeth have been attacked by caries and x is the average number of teeth attacked per child.[2]

[2] The catalytic curve was also rearranged so that the percentage of children with one or more DMF permanent teeth became the independent variable. This equation was fitted to the Hagerstown series and also to the data for all communities combined. As would be expected from the extremely high correlation between the two variables, the two equations lead to results that are essentially the same. Only the simpler catalytic curve is discussed in this paper.

DISCUSSION

The fact that there is a high degree of association between the age-specific prevalence of dental caries in a community and the proportion of children attacked in each age group seems rational. That the association should be essentially independent of such factors as color and community differences in susceptibility to dental caries is not obvious, but the fact is clearly established by these data. This characteristic of dental caries has important implications which may assist in directing future epidemiological studies on the disease. However, the present discussion will be limited to an examination of the manner in which the association may be employed to make prevalence data on dental caries more readily attainable. The limitations of the equation expressing the relation will also be discussed.

It is clear that if the evidence presented warrants a mathematical expression of the functional relation between the two variables studied, then the one, average number of carious permanent teeth per child, may be determined by obtaining the other, the proportion of children with one or more carious permanent teeth. In obtaining the latter, the simple tongue blade technique of dental examination and the mouth mirror and explorer method should be a useful complementary combination. Without sacrificing accuracy in the end results, those children who on cursory examination have obvious evidence of at least one decayed, missing, or filled permanent tooth can be examined rapidly, whereas those whose dental caries status is not so readily discerned may be more carefully examined with mouth mirror and explorer. In every case the examination is completed as soon as a single demonstration of presence of caries is made.

When the proportions of children with one or more carious permanent teeth have been obtained for age-specific groups of school children in a given community, the average number of carious teeth per child may be read directly from the curve in figure 3. For example, from each of the observed proportions of children with one or more DMF permanent teeth given in table 1, an estimate of the average number of carious teeth per child can be obtained by reference to figure 3. An illustration of the results of this procedure is given in table 2 for each of the five groups of children aged 10 years. Inasmuch as the DMF rates actually determined by complete examinations are available, they are used in this instance (table 2) for purposes of comparison. It is quite evident that all the estimates except that for Eastern Health District white children would be readily accepted as very close approximations of the observed rates.

The results given in table 2 serve to illustrate the method of using the curve in figure 3 for estimating the average number of DMF teeth per child from the observed proportion of children with one or more such teeth. If this procedure is followed for all age classes in the

community groups other than Hagerstown, 32 estimates will become available. These may be compared with the values actually found as a result of the detailed dental examination of each child. The difference in each case between the observed value and the estimate based on the Hagerstown experience alone can therefore be examined as a basis for judging the adequacy of the Hagerstown curve for application to other communities.

TABLE 2.—*Comparison of the observed and estimated number of DMF permanent teeth per child, for each of the five groups of children aged 10 years given in table 1*

School children	Observed percentage with one or more DMF permanent teeth	Estimated average number of DMF permanent teeth per child (from fig. 3)	Observed average number of DMF permanent teeth per child (from table 1)
Hagerstown (white)	78.3	2.52	2.51
Eastern Health District, Baltimore (white)	84.4	3.16	2.53
Eastern Health District, Baltimore (Negro)	66.2	1.78	1.65
Nicollet County (white)	86.2	3.42	3.39
Sibley County (white)	85.6	3.33	3.24

Each difference must be examined in relation to the sampling error to be expected. As a basis for estimating the latter, one may for simplicity choose to consider the effect of sampling error in the percentage alone. The ratios of the differences to those errors (expressed as standard deviations) are given as a frequency distribution in the first line of table 3. In the second line of the table is given the distribution of such ratios to be expected on the average solely through operation of chance factors. It will be observed that the agreement is quite good. The curve drawn in figure 3 appears to give results that are quite satisfactory, except perhaps in some of the 5 cases where the observed ratio exceeds 2σ. In all these 5 cases it may be noted that the percentage of children with carious teeth was greater than 80 percent, a point which will be discussed more fully a little later. Since only one source[3] of error has in fact been allowed for, the estimates based on figure 3 must be regarded as very satisfactory at least up to y values of 80 percent.

TABLE 3.—*A comparison of the differences between estimates based on figure 3 and the known facts of average number of DMF teeth per child (by 1 year of age classes) for the communities other than Hagerstown. Each difference is expressed as a ratio to the sampling error estimated from figure 3 and the value* $\sigma_y = \sqrt{\frac{y(100-y)}{N}}$

Deviation	Deviation ranges					
	-2σ	$-\sigma$	σ	$+\sigma$	$+2\sigma$	
Observed	2	4	9	10	4	3
Expected	1	4	11	11	4	1

[3] A close approximation to the error in the estimate is given by $\sigma x = \frac{0.016}{\sqrt{\frac{1-y}{97}}}\sigma y$.

Accepting the curve in figure 3 as being valid for general application, the confidence which may be placed on prevalence rates obtained from it is dependent on two interacting factors: First, the number of children on which a given proportion is based; and second, the magnitude of the particular proportion used to find the prevalence rate. To illustrate, if 70 percent of a group of 300 children, all of the same age, were found to have one or more carious permanent teeth, then by applying this proportion to figure 3, a prevalence rate of 1.98 DMF permanent teeth per child is readily estimated for the group. But a frequency proportion of 70 percent based on a population of 300 has a sampling error to be allowed for before it should be applied to the entire community. This error is usually measured as a standard deviation, determined from the general formula $\sigma p=\sqrt{\frac{pq}{N}}$ where p is the proportion of children with one or more carious permanent teeth, $q=1-p$, and N is the number of children examined. In the present case σp is 2.64 percent. The value of x for $y=70-2\sigma$ (or 64.72 percent) is 1.72 DMF teeth per child, and the value of x for $y=70+2\sigma$ (or 75.28 percent) is 2.32. Under these conditions, the value of 1.98 DMF permanent teeth (secured directly from figure 3) will be accepted with a high degree of assurance that it is within 0.3 DMF tooth of the true value. However, if the proportion, 70 percent, resulted from observations on 30 children instead of 300, σp would be 8.37 percent, the mean estimate would still be 1.98 DMF teeth, but the range of error in the estimate would now be 2.27 DMF teeth or from 1.23 to 3.50 DMF teeth. Under these conditions the estimate would be rejected as of little or no practical worth.

Some notion of the effect that the magnitude of the proportion has on the range of error in the estimate is illustrated in table 4. As in the illustrations just given, a range of error of $\pm 2\sigma$ in the proportion is allowed for and the values of the estimated number of DMF teeth are read from figure 3. The proportions throughout are considered as calculated for a group of 300 children.

TABLE 4.—*The range of values in estimated number of DMF permanent teeth (x)' based on observed percentages (y) of children with one or more DMF permanent teeth among 300 children examined*

Percentage with DMF teeth	Estimated number of DMF teeth per child	Standard deviation of error in y (in percent)	x value at $y+2\sigma y$	x value at $y-2\sigma$	Range of estimate
y	x	σy	x'	x''	$x'-x''$
90	4.07	1.73	5.08	3.47	1.61
80	2.69	2.31	3.18	2.32	.86
70	1.98	2.64	2.32	1.72	.60
50	1.13	2.85	1.33	.96	.37
30	.57	2.64	.71	.47	.24
10	.18	1.73	.22	.13	.09

It will be noted from a study of the figures presented in table 4 that σy, the standard deviation of error in the proportion, decreases as the percentages depart from 50 percent in either direction. However, the range of contingent error in the estimate $(x'-x'')$ increases progressively as the percentage of children with one or more DMF teeth increases in magnitude from 10 percent to percentages which fall on the saturation end of the curve. A range of error of 1.61 DMF teeth (or from 3.47 to 5.08 DMF teeth) when 4.07 DMF teeth is the mean estimate (as at a proportion of 90 percent) is quite high and suggests that whenever practical it would not be desirable to use this curve when proportions of 90 percent or greater are encountered. Indeed one might well question the value of the estimate when y exceeds 80 percent. Since the range of error in the estimate can be reduced by increasing the number of children on which any proportion is based, compensation for error intrinsic to the magnitude of the proportion may be made by increasing the number of children examined. However, the size of the population in a community and certain practical considerations impose limits on the numbers of children that can be examined.

Although it may appear unorthodox to refer to a regulation of the size of the proportion obtained, this can be done within certain limits through familiarity with age-specific data on the percentage of children with one or more carious permanent teeth. For example, it is evident from the data given in table 1 that if school children aged 11 years or younger were examined, there would be little risk of obtaining a proportion as great as 90 percent.

Limiting observations to children aged 11 years or younger is not of itself a serious restriction. This is true because it has been demonstrated that, in general, the DMF rates in the permanent teeth of school children increase with age in a straight-line fashion during the age span 6 to 18 years (*6*, *7*). Thus by determining the rates of prevalence of dental caries in the permanent teeth of two or three age groups, such as 7, 9, and 11 years, in a specific school population, estimates can then be obtained of the prevalence rates for the remaining age groups by linear interpolation and extrapolation.

Although the age-specific proportion of children with one or more carious permanent teeth is referred to as an index for determining the prevalence of dental caries in the permanent teeth of school children, the index is in itself a sort of prevalence figure. Getting figures on the proportion of children with one or more carious permanent teeth is analogous to getting household attack rates rather than rates based on individuals. For the material under consideration it has been demonstrated that a functional relationship exists between the proportion of "households" attacked and the average number of "individuals," or teeth attacked in each "household." It is clear,

therefore, that for the general purposes of epidemiological investigations on dental caries one might be justified in working directly with the proportions of persons attacked. For the purposes of such studies, nothing is to be gained by translating observed data on the percentages of children with one or more carious permanent teeth into estimated figures on the average number of DMF permanent teeth per child. On the other hand, the estimated figures are very useful as basic data for studies on dental needs and for studies on the evaluation of dental health programs.

SUMMARY

The relationship between the percentage of children of a specific age with one or more carious permanent teeth (y) and the average number of carious permanent teeth per child (x) of that age can be satisfactorily described by the equation $97-y=97(0.524)^x$.

The application of the equation to the problem of collecting prevalence data on dental caries is discussed. In particular it is shown that satisfactory estimates of the average number of carious (DMF) permanent teeth per child in a community may be obtained by determining the proportion of children by single years of age who have one or more DMF permanent teeth.

ACKNOWLEDGMENT

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AID IN THE RELOCATION OF PHYSICIANS AND DENTISTS

During its first session, the 78th Congress passed a deficiency appropriation bill which included an authorization to the United States Public Health Service to enter into agreements with and make certain payments to physicians and dentists to relocate in communities needing medical and dental services. On December 23, 1943, this measure became Public Law 216, 78th Congress.

The law is designed to provide relief to those areas which for various reasons have undergone the hardship of inadequate medical and dental care. Many of these communities have lost their doctors and dentists to the armed forces.

The law also provides an opportunity for the physician or dentist who has wanted to set up practice in another community but has hesitated because of the financial risk of those first months during which he and the families in the new town are becoming acquainted. Now, with a 3-month allowance assured and with transportation paid for him, he can make that move with less fear of financial loss.

Any municipality, county, or other local subdivision of government may file an application to secure a physician or dentist. Application forms are secured from the State health department. The application is executed by the legally authorized representative of the community (the city manager, mayor, chairman of the county board of supervisors, county judge, etc.). The application is sent, with the community's remittance of $300, made payable to the Treasurer of the United States, to the State health department for approval. When this approval is given, the State health department forwards the community's application and $300 to the United States Public Health Service.

Upon receipt of the community's application and payment of $300 the Public Health Service can enter into an agreement with a physician or dentist who has a permit to practice in the State in which the applicant community is located, who agrees to practice in that community for at least 1 year, and who is acceptable to the community. The costs of transportation of the physician or dentist, his family, and household effects are paid. In addition, a monthly allowance of $250 a month for 3 months will be paid to the doctor. Of the total cost of transportation and relocation allowance, 75 percent is contributed by the United States Public Health Service and 25 percent by the community to which the doctor is relocated.

The total relocation cost to the community will be about $300. If the community's obligation should exceed $300, the balance due must be remitted to the United States Public Health Service upon the latter's request. If it is less than $300, the excess will be refunded to the community.

After a written agreement between an individual physician or dentist and the United States Public Health Service has been concluded, the first monthly relocation allowance to the physician or dentist accrues from the date of the latter's arrival at the new location. The second and third payments are made at the end of the second and third months.

Travel and transportation costs can be paid in either of two ways. The physician or dentist who has a written agreement with the Public Health Service can apply to the latter for Government transportation requests and Government bills of lading. If this arrangement is carried out, the Government is billed and the physician or dentist does not have to use his own funds to cover this expense. Or, if he prefers, he may pay travel transportation himself and be reimbursed for actual and necessary expense upon presentation of his claim to the Public Health Service. These claims must be supported by receipts insofar as possible.

The physician or dentist relocating under agreement with the Public Health Service remains a private self-employed professional individual. His relation to the community is the same as that of any other private doctor except that he must practice in the new location at least 1 year. The Public Health Service simply assists in getting together the community that needs a physician or dentist with the professional man who has the necessary permit to practice and who agrees to serve that community in his professional capacity.

The purpose of this relocation plan is to mitigate the doctor shortage, which in some places has been created, in others intensified, by military absorption of medical and dental personnel. The success of the plan will depend in large measure upon the response of the individual doctor, the initiative of the needy community, and, above all, upon the extent to which the wishes of the applicant communities coincide with the preference of the doctors who volunteer to serve under this plan.

ANNUAL CONFERENCE OF THE UNITED STATES PUBLIC HEALTH SERVICE WITH THE STATE AND TERRITORIAL HEALTH OFFICERS

The Forty-second Annual Conference of the United States Public Health Service with the State and Territorial Health Officers will be held in Washington, D. C., March 21 and 23, 1944.

As in recent years, the Conference of the United States Children's Bureau with the State and Territorial Health Officers, and the annual meetings of the State and Provincial Health Authorities of North America and of the State and Territorial Health Association will be held concurrently.

General sessions of all three conferences will meet in the auditorium of the District of Columbia Medical Society, 1718 M Street NW. Committee meetings will be held at the Blaine Building, 2000 Massachusetts Avenue NW.

The Conference of the Public Health Service with State and Territorial Health Officers will consider specific problems affecting public health departments; special attention will be directed toward several diseases which have increased in importance during the war.

The Conference will be opened by the Surgeon General and speakers at the first general session will include: the Honorable Paul V. McNutt, Administrator of the Federal Security Agency, Assistant Surgeon General R. E. Dyer, Medical Director Joseph W. Mountin, Medical Director E. R. Eskey, and Mr. Stanley Freeborn.

SCHEDULE OF MEETINGS

MONDAY, MARCH 20, 1944

Morning—Executive meeting of State and Territorial Health Officers' Association.
Afternoon—Conference of United States Children's Bureau with State and Territorial Health Officers.

TUESDAY, MARCH 21, 1944

Morning—Conference of United States Public Health Service with State and Territorial Health Officers.
Afternoon—Committee meetings of above conference with consultants of the United States Public Health Service, Blaine Building, 2000 Massachusetts Avenue NW.
Evening—Executive meeting of State and Territorial Health Officers' Association (place to be announced later).

WEDNESDAY, MARCH 22, 1944

Morning and Afternoon—Conference of State and Provincial Health Authorities of North America.

THURSDAY, MARCH 23, 1944

Morning—Conference of United States Children's Bureau with State and Territorial Health Officers.
Afternoon—Conference of the United States Public Health Service with State and Territorial Health Officers.

Committees	*Committee members*	*Consultants*
Federal-State relations and allocation of Federal funds.	Dr. E. S. Godfrey, Jr., chairman. Dr. Stanley H. Osborn, vice chairman. Dr. J. Lynn Mahaffey. Dr. Robert H. Riley. Dr. T. F. Abercrombie. Dr. L. E. Powers. Dr. A. J. Chesley. Dr. I. C. Riggin. Dr. Walter L. Bierring. Dr. T. T. Ross.	Dr. L. E. Burney. Mr. Stanley Drexler. Dr. J. G. Townsend.

Committees	*Committee members*	*Consultants*
Venereal disease	Dr. B. F. Austin, chairman. Dr. Roland R. Cross, vice chairman. Dr. E. V. Thiehoff. Dr. R. H. Markwith. Dr. Gilbert Cottam. Dr. Edward A. McLaughlin. Dr. Felix J. Underwood. Dr. W. F. Cogswell. Dr. G. R. Smith.	Dr. J. R. Heller. Dr. O. L. Anderson. Miss Lida J. Usilton.
Personnel	Dr. Carl N. Neupert, chairman. Dr. C. A. Selby, vice chairman. Dr. Robert H. Riley. Dr. Carl V. Reynolds. Dr. Stanley H. Osborn. Dr. R. L. Cleere. Dr. J. Lynn Mahaffey. Dr. Frederick D. Stricker. Dr. Edward E. Hamer.	Mr. Ellis Tisdale. Miss Gladys Crain. Miss Bess Cheney.
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Interstate and foreign quarantine.	Dr. Henry Hanson, chairman. Dr. Wilton L. Halverson, vice chairman. Dr. Knud Knud-Hansen. Dr. C. L. Wilbar, Jr. Dr. George W. Cox. Dr. A. Fernos Isern. Dr. C. C. Carter. Dr. James R. Scott. Dr. G. F. Manning. Dr. David E. Brown.	Mr. John Hoskins. Dr. J. P. Leake. Dr. G. L. Dunnahoo.
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PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED FEBRUARY 19, 1944

Summary

A further slight decrease occurred in the incidence of meningococcus meningitis. A total of 529 cases was reported, as compared with 562 last week, 398 for the corresponding week last year, and a 5-year (1939–43) median of 69. Nine States reported an aggregate of 303 cases, or 57 percent of the total, as follows (last week's figures in parentheses): *Increases*—Massachusetts 19 (9), New York 65 (57), Ohio 31 (27), Missouri 23 (17), Virginia 25 (13), Tennessee 33 (28), California 54 (44); *decreases*—Pennsylvania 27 (37), Michigan 26 (33). The average weekly total for the past 3 weeks is 554, as compared with 568 for the next preceding 4 weeks. The cumulative total to date is 3,936, as compared with 2,456 for the same period last year and a 5-year median of 386.

A total of 7,199 cases of influenza was reported, as compared with 10,748 for the preceding week and 6,895 for the 5-year median. Currently, 57 percent of the cases were reported in 3 States—Texas 2,736, South Carolina 801, and Virginia 601.

The reported numbers of cases of measles and scarlet fever declined slightly as compared with last week. The incidence of measles, both currently and to date for the year, is approximately 45 percent above the corresponding 5-year medians, and the current and cumulative figures for scarlet fever are 42 and 31 percent higher than the respective medians.

Of 91 cases of typhoid fever, 28 occurred in Indiana, 14 in Texas, and 8 in New York State. A total of 586 cases has been reported to date, as compared with 356 for the same period last year and a 5-year median of 539. The recent outbreaks in Kentucky (36 cases this year to date) and Indiana (209 cases) have contributed largely to this excess incidence.

Deaths recorded in 89 large cities of the United States totaled 9,698 for the current week, as compared with 9,337 last week and a 3-year (1941–43) average of 9,633. The cumulative total to date is 73,512 as compared with 71,316 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended February 19, 1944, and comparison with corresponding week of 1943 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended		Median 1939–43	Week ended		Median 1939–43	Week ended		Median 1939–43	Week ended		Median 1939–43
	Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943	
NEW ENGLAND												
Maine	1	0	1	2	1	7	196	6	122	3	11	0
New Hampshire	0	0	0	-	-	-	3	10	7	0	1	0
Vermont	0	0	0	14	-	-	94	275	7	1	0	0
Massachusetts	4	0	2	-	-	-	462	760	454	19	15	2
Rhode Island	1	0	1	-	-	-	423	8	14	11	28	0
Connecticut	0	0	0	8	4	4	330	320	282	6	5	0
MIDDLE ATLANTIC												
New York	8	15	23	[1] 7	[1] 5	[1] 43	1,631	1,772	1,048	65	42	6
New Jersey	2	6	8	13	23	30	1,235	1,078	166	13	29	1
Pennsylvania	5	9	20	8	4	-	1,080	3,498	1,174	27	21	7
EAST NORTH CENTRAL												
Ohio	10	10	10	75	11	28	3,035	154	154	31	6	3
Indiana	15	4	12	67	36	113	266	175	43	17	7	1
Illinois	15	9	20	40	5	127	926	506	226	17	16	0
Michigan [2]	7	4	6	12	1	31	1,386	205	275	26	5	1
Wisconsin	1	3	1	202	56	56	1,810	946	769	6	12	0
WEST NORTH CENTRAL												
Minnesota	4	2	4	5	-	2	1,082	32	366	4	3	0
Iowa	7	3	4	3	2	27	133	148	174	15	1	0
Missouri	7	2	5	8	-	38	212	228	73	23	6	1
North Dakota	1	1	1	10	6	20	299	28	28	2	0	0
South Dakota	0	12	0	-	-	3	128	66	31	0	0	0
Nebraska	2	0	4	1	39	3	82	258	62	1	2	0
Kansas	3	10	10	1	14	17	555	333	251	9	10	0
SOUTH ATLANTIC												
Delaware	1	0	1	-	6	-	8	23	6	1	2	0
Maryland [2]	6	2	2	28	8	131	662	37	60	12	15	4
District of Columbia	0	1	2	-	4	18	112	80	31	1	2	1
Virginia	2	10	10	601	440	1,338	904	378	176	25	29	4
West Virginia	2	5	5	60	10	53	496	11	21	5	0	0
North Carolina	12	6	16	48	35	71	1,136	76	257	7	14	0
South Carolina	6	4	4	801	643	972	279	36	36	6	6	1
Georgia	2	2	5	164	205	205	383	52	248	5	1	1
Florida	5	1	4	68	5	5	183	23	55	2	3	0
EAST SOUTH CENTRAL												
Kentucky	1	5	5	188	10	136	0	622	106	8	4	2
Tennessee	5	9	10	203	76	79	273	125	119	33	1	1
Alabama	9	7	8	177	188	453	339	17	140	17	4	3
Mississippi [2]	2	6	6	-	-	-	-	-	-	7	4	2
WEST SOUTH CENTRAL												
Arkansas	5	5	5	336	145	458	150	171	107	5	0	0
Louisiana	7	6	6	122	21	21	84	126	57	7	4	1
Oklahoma	4	2	8	276	26	227	112	30	30	4	1	0
Texas	31	50	42	2,736	1,639	1,790	731	379	379	14	13	6
MOUNTAIN												
Montana	0	6	6	83	8	8	253	248	168	1	0	0
Idaho	1	17	1	-	-	-	53	205	36	0	3	0
Wyoming	2	0	0	7	33	33	110	43	34	0	0	0
Colorado	5	7	12	79	84	84	297	519	106	5	0	0
New Mexico	1	3	1	2	1	2	16	21	42	2	0	0
Arizona	5	0	5	168	144	144	158	21	21	0	1	0
Utah [2]	0	1	0	384	57	16	16	393	81	0	7	0
Nevada	0	0	0	-	-	-	0	14	2	0	0	0
PACIFIC												
Washington	4	3	3	10	8	3	215	1,189	271	7	11	1
Oregon	2	4	3	65	28	37	84	306	193	5	22	0
California	27	15	20	117	103	103	621	383	383	54	31	2
Total	240	267	287	7,199	4,134	6,895	23,043	16,334	15,869	529	398	69
7 weeks	1,805	2,186	2,396	294,840	31,258	33,080	114,962	78,682	78,682	3,936	2,456	386

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended February 19, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [1]		
	Week ended		Median 1939–43	Week ended		Median 1939–43	Week ended		Median 1939–43	Week ended		Median 1939–43
	Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943		Feb. 19, 1944	Feb. 20, 1943	
NEW ENGLAND												
Maine	0	0	0	28	0	19	0	0	0	1	1	0
New Hampshire	0	0	0	11	8	4	0	0	0	1	0	0
Vermont	0	0	0	4	13	13	0	0	0	0	0	0
Massachusetts	1	0	0	490	605	222	0	0	0	0	2	2
Rhode Island	0	0	0	17	14	14	0	0	0	1	0	0
Connecticut	0	0	0	104	71	71	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	2	1	1	574	507	507	0	0	0	8	2	4
New Jersey	0	0	0	141	154	166	0	0	0	1	0	0
Pennsylvania	0	0	0	318	303	370	0	0	0	2	5	5
EAST NORTH CENTRAL												
Ohio	0	0	0	365	259	370	0	1	0	2	3	3
Indiana	0	0	0	225	83	179	0	9	1	28	0	3
Illinois	0	1	1	361	272	445	2	0	0	1	2	2
Michigan [2]	1	0	0	218	105	290	0	0	3	3	3	2
Wisconsin	0	0	0	355	294	219	0	0	4	0	1	0
WEST NORTH CENTRAL												
Minnesota	0	0	0	215	62	82	0	0	7	0	0	0
Iowa	0	0	0	168	97	75	1	1	1	0	0	0
Missouri	0	0	0	78	94	87	0	1	2	3	0	0
North Dakota	0	0	0	43	12	21	0	0	0	0	0	1
South Dakota	1	0	0	32	16	21	0	1	2	0	0	0
Nebraska	0	0	0	54	45	31	0	0	0	0	2	0
Kansas	0	0	0	88	89	89	0	0	1	0	1	1
SOUTH ATLANTIC												
Delaware	0	0	0	9	4	16	0	0	0	0	1	0
Maryland [2]	0	0	0	178	80	73	0	0	0	0	1	1
District of Columbia	1	0	0	221	24	20	0	0	0	0	0	0
Virginia	0	0	0	76	33	33	0	0	0	2	8	2
West Virginia	0	0	0	64	28	37	0	0	0	3	0	1
North Carolina	1	1	1	33	47	55	0	0	0	1	3	0
South Carolina	0	0	0	13	4	8	0	0	0	0	0	1
Georgia	1	0	0	12	21	19	0	0	0	2	1	4
Florida	0	1	0	12	9	9	0	0	0	1	0	2
EAST SOUTH CENTRAL												
Kentucky	1	1	2	91	62	81	0	0	1	2	3	1
Tennessee	0	0	1	66	80	80	0	0	1	3	0	3
Alabama	0	1	0	22	8	15	0	0	0	1	2	1
Mississippi [2]	1	1	0	4	9	6	0	1	1	1	2	2
WEST SOUTH CENTRAL												
Arkansas	0	0	0	13	9	9	0	13	2	1	2	2
Louisiana	1	0	1	3	6	6	0	0	0	2	8	3
Oklahoma	0	0	0	27	12	23	0	0	0	1	1	1
Texas	2	2	2	77	83	68	4	5	5	14	4	4
MOUNTAIN												
Montana	0	0	0	55	8	32	0	1	0	0	1	0
Idaho	1	1	0	40	4	7	0	0	0	0	0	0
Wyoming	0	0	0	10	29	9	0	0	0	0	0	0
Colorado	1	0	0	57	79	55	0	0	2	1	0	0
New Mexico	0	0	0	16	4	7	1	0	0	0	1	0
Arizona	0	1	0	30	11	8	0	0	0	1	0	0
Utah [2]	0	1	1	158	77	33	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	2	1	0	221	36	56	0	0	0	0	0	0
Oregon	0	0	0	103	15	17	0	0	0	2	1	0
California	9	8	3	270	153	153	0	0	0	2	3	3
Total	26	21	26	5,770	4,038	4,069	8	33	41	91	64	64
7 weeks	185	213	213	34,004	26,048	26,048	88	216	339	586	356	539

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended February 19, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Whooping cough		Week ended Feb. 19, 1944									
	Week ended—		Median 1939–43	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	Feb. 19, 1944	Feb. 20, 1943			Amebic	Bacillary	Unspecified					
NEW ENGLAND												
Maine	4	48	39	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	3	0	0	0	0	0	0	0	0	0
Vermont	23	27	34	0	0	0	0	0	0	0	0	0
Massachusetts	73	164	204	0	0	0	0	0	0	0	0	0
Rhode Island	16	5	8	0	0	0	0	0	0	0	0	0
Connecticut	18	26	56	0	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	143	350	418	0	1	18	0	3	0	0	0	0
New Jersey	34	203	203	0	0	0	0	0	0	0	0	0
Pennsylvania	117	273	273	1	1	0	0	0	0	0	0	1
EAST NORTH CENTRAL												
Ohio	97	180	202	0	0	0	0	0	0	0	0	0
Indiana	43	22	33	0	0	0	0	0	0	0	1	0
Illinois	51	173	131	0	0	0	0	1	0	0	2	0
Michigan [1]	75	264	238	0	1	1	0	0	0	0	0	0
Wisconsin	82	212	212	0	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota	22	83	38	0	0	0	0	0	0	0	1	0
Iowa	19	28	14	0	0	0	0	0	0	0	0	0
Missouri	13	2	9	0	0	0	0	0	0	0	0	0
North Dakota	2	5	7	0	0	0	0	0	0	0	0	0
South Dakota	2	5	5	0	0	0	0	0	0	0	0	0
Nebraska	25	14	5	0	0	0	0	0	0	0	0	0
Kansas	27	63	46	0	0	0	0	1	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	9	98	0	0	0	0	0	0	0	0	0
Maryland [1]	18	85	850	0	0	0	0	1	0	0	0	0
District of Columbia	1	10	14	0	0	0	0	0	0	0	0	0
Virginia	23	56	7	0	0	0	53	0	0	0	0	0
West Virginia	29	40	3	0	0	0	0	0	0	0	0	0
North Carolina	126	131	211	0	0	0	0	0	0	0	1	0
South Carolina	51	29	54	0	0	0	0	0	0	0	0	0
Georgia	0	40	27	0	0	0	0	0	0	0	0	4
Florida	60	29	19	0	2	0	0	0	0	0	0	1
EAST SOUTH CENTRAL												
Kentucky	39	50	50	0	0	0	0	0	0	0	0	0
Tennessee	24	73	51	0	0	0	0	1	0	0	0	3
Alabama	5	27	25	0	0	0	0	0	0	0	1	8
Mississippi [2]	----	----	----	0	0	0	0	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas	10	35	8	0	0	1	0	0	0	0	0	0
Louisiana	7	12	11	0	3	0	0	0	1	0	2	3
Oklahoma	1	15	9	0	0	0	0	0	0	0	0	0
Texas	118	412	162	0	4	127	0	2	1	0	1	5
MOUNTAIN												
Montana	5	49	5	0	0	0	0	0	0	0	0	0
Idaho	1	5	5	0	0	0	0	0	0	0	0	0
Wyoming	3	1	2	0	1	0	0	0	0	0	0	0
Colorado	21	14	33	0	0	0	0	0	0	0	0	0
New Mexico	3	19	22	0	0	0	1	0	0	0	0	0
Arizona	15	16	16	0	0	0	7	0	0	0	0	0
Utah [1]	16	17	28	0	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	49	44	44	0	0	0	0	0	0	0	0	0
Oregon	29	5	15	0	0	0	0	0	0	0	0	0
California	64	267	185	0	1	6	0	0	0	0	0	0
Total	1,604	3,637	3,637	1	14	153	61	9	2	0	9	25
7 weeks	12,649	27,046	29,267	6	143	1,538	381	63	5	1	80	324
7 weeks, 1943	----	----	----	10	131	1,212	258	65	4	1	130	399

[1] New York City only.

[2] Period ended earlier than Saturday.

[3] Including paratyphoid fever cases reported separately as follows: Michigan, 1; Colorado, 1.

WEEKLY REPORTS FROM CITIES

City reports for week ended February 5, 1944

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	5	2	6	0	11	0	0	0
New Hampshire:												
Concord	0	0	------	0	0	1	2	0	1	0	0	0
Vermont:												
Barre	0	0	------	0	0	0	0	0	1	0	0	0
Massachusetts:												
Boston	2	0	------	1	38	11	22	0	61	0	0	28
Fall River	0	0	------	0	4	0	1	0	3	0	0	3
Springfield	0	0	------	0	53	1	1	0	17	0	0	4
Worcester	0	0	------	0	4	0	6	0	39	0	0	1
Rhode Island:												
Providence	0	0	1	0	173	4	6	0	5	0	0	11
Connecticut:												
Bridgeport	0	1	1	1	9	0	3	0	7	0	0	0
Hartford	1	0	------	0	0	0	0	0	14	0	0	1
New Haven	0	0	------	0	25	2	6	0	2	0	0	5
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	5	2	15	0	11	0	0	0
New York	7	1	12	4	958	46	90	0	217	0	3	47
Rochester	0	0	------	1	1	2	6	0	8	0	0	1
Syracuse	0	0	------	0	1	1	1	0	8	0	0	10
New Jersey:												
Camden	0	0	------	1	0	1	0	0	10	0	0	8
Newark	0	0	5	0	29	4	4	0	21	0	0	13
Trenton	0	0	2	1	3	0	5	0	18	0	0	1
Pennsylvania:												
Philadelphia	1	0	8	5	15	15	23	0	49	0	0	9
Pittsburgh	1	1	4	6	274	8	17	0	16	0	0	6
Reading	0	0	------	0	4	0	1	0	2	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	3	0	------	0	9	4	10	0	29	0	0	0
Cleveland	0	0	6	1	744	4	11	0	62	0	6	13
Columbus	0	1	3	3	70	0	5	0	8	0	0	7
Indiana:												
Fort Wayne	0	0	------	0	31	0	6	0	2	0	2	0
Indianapolis	1	0	------	2	27	1	12	0	35	0	0	5
South Bend	0	0	------	0	4	0	0	0	0	0	0	0
Terre Haute	1	0	------	0	1	0	2	0	0	0	0	0
Illinois:												
Chicago	3	0	6	3	38	12	30	0	129	0	0	18
Springfield	0	0	3	0	69	0	0	0	2	0	0	0
Michigan:												
Detroit	5	0	3	0	38	14	0	0	65	0	0	8
Flint	0	0	------	0	6	2	2	0	4	0	0	3
Grand Rapids	0	0	------	0	234	1	2	0	6	0	0	1
Wisconsin:												
Kenosha	0	0	------	0	0	0	0	0	6	0	0	4
Milwaukee	0	0	1	1	35	6	8	0	90	0	0	29
Racine	0	0	------	0	0	0	1	0	7	0	0	10
Superior	0	0	------	0	23	0	2	0	5	0	0	0
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	7	0	0	0	25	0	0	20
Minneapolis	5	0	------	1	418	2	6	0	49	0	0	10
St. Paul	0	0	------	0	256	1	2	0	60	0	0	6
Missouri:												
Kansas City	0	0	------	4	7	4	17	0	30	0	0	1
St. Joseph	0	0	------	0	0	0	0	0	5	0	0	0
St. Louis	0	0	4	3	88	15	19	0	13	0	0	7
Nebraska:												
Omaha	2	0	------	1	1	0	2	0	35	0	0	0
Kansas:												
Topeka	1	0	------	0	1	0	1	0	1	0	0	3
Wichita	0	0	------	0	192	0	3	0	3	0	0	0

City reports for week ended February 5, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
SOUTH ATLANTIC												
Delaware:												
Wilmington	2	0	------	0	9	0	5	0	0	0	0	0
Maryland:												
Baltimore	1	0	6	2	328	9	19	0	56	0	0	12
Cumberland	0	0	2	1	0	0	0	0	0	0	0	0
Frederick	0	0	------	0	4	0	0	0	0	0	0	0
District of Columbia:												
Washington	0	0	9	0	39	5	13	0	184	0	0	6
Virginia:												
Lynchburg	0	0	30	0	11	0	1	0	0	0	0	0
Richmond	0	0	1	1	65	5	2	0	3	0	0	0
Roanoke	0	0	------	0	31	0	0	0	0	0	0	1
West Virginia:												
Charleston	0	0	1	0	0	0	0	0	3	0	0	0
Wheeling	0	0	------	0	0	0	1	0	2	0	0	2
North Carolina:												
Winston-Salem	6	0	------	0	47	1	0	0	2	0	0	5
South Carolina:												
Charleston	0	0	55	1	19	5	4	0	0	0	1	0
Georgia:												
Atlanta	3	0	43	0	46	2	3	0	4	0	1	1
Brunswick	0	0	2	0	64	1	2	0	0	0	0	0
Savannah	0	0	13	3	0	3	1	0	0	0	0	0
Florida:												
Tampa	0	0	1	1	18	0	2	0	2	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	1	0	15	6	9	5	5	0	4	0	1	5
Nashville	0	0	------	1	2	0	6	0	6	0	0	0
Alabama:												
Birmingham	1	0	11	2	9	0	4	0	3	0	0	0
Mobile	2	0	17	0	3	2	2	0	1	0	0	1
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	1	0	17	1	4	0	0	0	0	2
Louisiana:												
New Orleans	7	0	21	6	9	9	11	0	4	0	1	2
Shreveport	0	0	------	4	0	0	12	0	0	0	0	0
Texas:												
Dallas	2	0	1	1	9	2	5	0	3	0	0	1
Galveston	1	0	21	0	0	0	2	0	1	0	0	0
Houston	1	0	------	1	15	4	4	1	2	0	0	0
San Antonio	1	0	1	2	6	4	7	0	0	0	0	0
MOUNTAIN												
Montana:												
Billings	0	0	------	0	0	0	2	0	1	0	0	0
Great Falls	0	0	27	1	7	1	0	0	9	0	0	2
Helena	0	0	------	0	4	0	1	0	4	0	0	0
Missoula	0	0	------	0	2	0	0	0	3	0	0	0
Idaho:												
Boise	0	0	------	0	0	1	0	0	0	0	0	0
Colorado:												
Denver	4	0	16	1	43	1	7	0	22	0	0	22
Pueblo	0	0	------	0	57	0	0	0	2	0	0	3
Utah:												
Salt Lake City	0	0	------	0	5	0	0	0	35	0	0	3
PACIFIC												
Washington:												
Seattle	0	0	------	2	7	1	6	0	0	0	0	10
Spokane	0	0	2	2	46	0	0	0	13	0	0	1
Tacoma	1	0	------	0	2	2	3	0	61	0	0	1
California:												
Los Angeles	4	0	53	4	86	2	11	0	41	0	1	7
Sacramento	0	0	1	2	4	2	4	0	0	0	0	0
San Francisco	0	0	31	0	11	5	8	0	23	0	0	7
Total	70	4	440	83	4,934	239	513	1	1,686	0	16	388
Corresponding week, 1943	68	3	216	44	3,623	119	607	9	1,336	5	10	1,052
Average, 1939–43	89	------	[2] 2,262	[1] 84	[2] 3,289	------	[1] 584	------	1,333	14	15	1,093

Dysentery, amebic.—Cases: Boston, 2; New York, 1.
Dysentery, bacillary.—Cases: Worcester, 3; New York, 13; St. Louis, 1; Charleston, S. C., 1; Los Angeles, 1.
Tularemia.—Cases: St. Louis, 1.
Typhus fever.—Cases: St. Louis, 2; Charleston, S. C., 2; Atlanta, 1; Savannah, 2.

[1] 3-year average, 1941–43. [2] 5-year median.

Rates (annual basis) per 100,000 population, by geographic groups, for the 87 cities in the preceding table (estimated population, 1942, 34,649,200)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	7.5	2.5	5	5.0	775	52.3	132.0	0.0	401	0.0	0.0	132
Middle Atlantic	4.0	0.9	14	8.0	577	35.3	72.4	0.0	161	0.0	1.3	42
East North Central	7.6	0.6	13	5.9	778	25.8	53.3	0.0	263	0.0	4.7	57
West North Central	15.9	0.0	8	17.8	1924	43.6	99.2	0.0	438	0.0	0.0	93
South Atlantic	20.9	0.0	284	15.7	1185	53.9	92.2	0.0	445	0.0	3.5	47
East South Central	23.8	0.0	256	53.6	137	41.7	101.2	0.0	83	0.0	6.0	36
West South Central	35.3	0.0	132	41.2	165	58.8	132.4	2.9	29	0.0	2.9	15
Mountain	32.2	0.0	347	16.1	951	24.2	80.6	0.0	613	0.0	0.0	250
Pacific	8.8	0.0	152	17.5	273	21.0	56.1	0.0	242	0.0	1.8	46
Total	10.6	0.6	66	12.5	745	36.1	77.4	0.2	254	0.0	2.4	59

TERRITORIES AND POSSESSIONS

Panama Canal Zone

Notifiable diseases—December 1943.—During the month of December 1943, certain notifiable diseases were reported in the Panama Canal Zone and terminal cities as follows:

Disease	Panama		Colon		Canal Zone		Outside the Zone and terminal cities		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chickenpox	3		2		2				7	
Diphtheria	3	1			2				5	1
Dysentery (amebic)	3		1				3	2	7	2
Dysentery (bacillary)	2				1		3		6	
German measles					42				42	
Malaria [1]	13		2		160		76	2	251	2
Meningitis, meningococcus			1				1		2	
Mumps	18		8		76		3		105	
Paratyphoid fever	2				1		2		5	
Pneumonia (all forms)		10		5	25	4		2	[2] 25	21
Relapsing fever							1		1	
Scarlet fever			2						2	
Tuberculosis		15		8	5	3		12	[2] 5	38
Typhoid fever	1								1	
Whooping cough		3								3

[1] 64 recurrent cases.
[2] Reported in the Canal Zone only.

Correction

In the article "Mortality in large cities, 1943" which appeared on page 209 of the February 11, 1944, issue of Public Health Reports, the first line of the last paragraph should read as follows: "These provisional mortality figures are from tabulations made on the basis of the place of occurrence, and not by place of residence."

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended January 22, 1944.—During the week ended January 22, 1944, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		9		310	379	80	45	1	202	1, 141
Diphtheria	4	10	3	44	15	2	2			82
Dysentery (amebic)					6					6
Dysentery (bacillary)				2					9	11
Encephalitis, infectious				1	1					2
German measles				14	17	2	3	7	6	49
Influenza		103	5		268	11			327	714
Measles	1	8		495	326	45	24	198	10	1, 107
Meningitis, meningococcus				7	6		1		4	18
Mumps	1	7		78	245	56	6	34	53	480
Poliomyelitis				1						1
Scarlet fever		18	5	98	214	91	25	50	88	589
Tuberculosis (all forms)		4	1	147	59	6		1	12	230
Typhoid and paratyphoid fever		1		9					1	11
Undulant fever				1					1	2
Whooping cough		12		173	127	10	11	6	48	387

CUBA

Provinces—Notifiable diseases—4 weeks ended January 29, 1944.—During the 4 weeks ended January 29, 1944, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana[1]	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer	1		8	7	1	6	23
Chickenpox			5				5
Diphtheria		41	2	2		3	48
Hookworm disease		16					16
Leprosy		1				1	2
Malaria	110	11	12	19	26	371	549
Measles	1	24	6				31
Poliomyelitis		1					1
Tuberculosis	20	71	20	34	3	44	192
Typhoid fever	3	50	6	12	3	29	103

[1] Includes the city of Habana.

FINLAND

Notifiable diseases—November 1943.—During the month of November 1943, cases of certain notifiable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Anthrax	1	Paratyphoid fever	102
Cerebrospinal meningitis	9	Pneumonia (all forms)	1,427
Chickenpox	694	Poliomyelitis	30
Conjunctivitis	20	Puerperal fever	66
Diphtheria	3,006	Rheumatic fever	289
Dysentery	4	Scabies	3,275
Gastroenteritis	2,058	Scarlet fever	906
Gonorrhea	571	Syphilis	408
Hepatitis, epidemic	918	Tetanus	1
Influenza	1,149	Typhoid fever	32
Laryngitis	96	Undulant fever	1
Measles	6,741	Vincent's infection	11
Mumps	223	Whooping cough	639

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place		January–November 1943	December 1943	January 1944—week ended—				
				1	8	15	22	29
ASIA								
Ceylon	C	50						
China: Kwangsi Province	C	[1] 1,100						
India	C	278,953	38,480	5,838				
Bombay	C	28						
Calcutta	C	6,651	297	59	77	67		
Chittagong	C	373	18		5			
Cochin	C	192						
Madras	C	1,091	128		9	7		
Negapatam	C	21						
Vizagapatam	C	68						
India (French)	C	55						
Chandernagor	C	8						
Karikal	C	30						
Pondichery	C	17						

[1] Cases reported up to Sept. 8, 1943, with a mortality rate of over 25 percent.

PLAGUE

[C indicates cases; D, deaths; P, present]

Place		January-November 1943	December 1943	January 1944—week ended— 1	8	15	22	29
AFRICA								
Basutoland	C	[1] 23						
Belgian Congo	C	[2] 26	2				3	
Plague-infected rats		P						
British East Africa:								
Kenya	C	17	1					
Uganda	C	18	2					
Egypt	C	37	102	31	23	27	11	
Port Said	C	7	3		1			
Suez	C	22	96	31	22	27	11	
French West Africa: Dakar	C	32						
Madagascar	C	55	4					
Morocco (French)	C	296	3					
Rhodesia, northern	C				1			
Senegal	C	251						
Union of South Africa	C	69	3	4				
ASIA								
India	C	6,810	1,634	428	453	95		
Indochina	C	31						
Palestine	C	12		1				
EUROPE								
Portugal (Azores).[3]								
SOUTH AMERICA								
Ecuador: Loja Province	C	11						
Peru:								
Ica Department	C	1						
Lambayeque Department	C	2						
Libertad Department	C	17						
Lima Department	C	19						
Lima	C	1						
Plague-infected rats		P						
Piura Department	C	5						
Venezuela	C	10						
OCEANIA								
Hawaii Territory:								
Hamakua District	D	5	2			1		[5] 1
Plague-infected rats		[4] 86	7		2	1		

[1] Includes 12 cases of pneumonic plague in a village south of Mafeteng.
[2] Includes 7 cases of pneumonic plague.
[3] A report dated Nov. 19, 1942, states that during 1942 there were 54 cases of plague including 3 pneumonic cases and 2 septicemic cases among the civil population and 2 additional cases among the military population of the Azores. In 1943 the number of cases is about the same as for the year 1942.
[4] Includes 4 plague-infected mice.
[5] Pneumonic.

SMALLPOX

[C indicates cases; D, deaths]

Place		January–November 1943	December 1943	January 1944—week ended— 1	8	15	22	29
AFRICA								
Algeria	C	1,441	168					
Angola	C	631						
Basutoland	C	146						
Belgian Congo	C	4,186	102					
British East Africa:								
Kenya	C	2,583	856	164	104	241		
Mombasa	C	60	7	5	5	4		
Tanganyika	C	83	60			17		
Uganda	C	82	29	21	32	21		
Dahomey	C	145	11					
Egypt	C	3,476	201	186	149			
French Equatorial Africa	C	127						
French Guinea	C	378						
French West Africa: Dakar	C	4					1	
Gold Coast	C	25						
Ivory Coast	C	154	6					
Mauritania	C	40						
Morocco (French)	C	1,008	162					
Mozambique	C	1						
Nigeria	C	5,441	488	203				
Niger Territory	C	284	24					
Rhodesia, northern	C	114	9					
Senegal	C	111						
Sierra Leone	C	3						
Sudan (French)	C	3,694	111					
Tunisia	C	3			1		1	
Union of South Africa	C	717	4					
ASIA								
Arabia	C	1	2			[1] 1		
Ceylon	C	84	1			1		
India	C	41,988	10,295	2,031	4,205			
India (French)	C	10						
Indochina	C	4,823	290		116			
Iran	C	568						
Iraq	C	247	25		1	1		
Palestine	C	104						
Syria and Lebanon	C	1,081	40					
Trans-Jordan	C	19						
EUROPE								
Belgium	C	1						
France	C	2						
Germany	C	1						
Gibraltar	C	1						
Greece	C	403						
Portugal	C	45	5	1	1	1	1	
Scotland	C	[2] 2						
Spain	C	218		3				
Switzerland	C	17						
Turkey	C	10,912						
NORTH AMERICA								
British Honduras	C	1						
Canada	C	6						
Guatemala	C	27						
Mexico	C	336			9	11		10
SOUTH AMERICA								
Brazil	C	56	1					
British Guiana	C	1						
Colombia	C	376	15		4			
Ecuador	C	25						
Peru	D	12				5	14	
Lima	C					5	14	
Venezuela	C	105						

[1] Imported.
[2] On a vessel from North Africa

TYPHUS FEVER

[C indicates cases; D, deaths]

Place		January–November 1943	December 1943	January 1944—week ended— 1	8	15	22	29
AFRICA								
Algeria	C	8,269	52				39	
Basutoland	C	28						
Belgian Congo	C	39						
British East Africa:								
Kenya	C	4				1		
Mombasa	C	1						
Uganda	C	1						
Egypt	C	40,022	70	120	140			
French West Africa: Dakar	C	26	6					
Gold Coast	C	9						
Morocco (French)	C	16,077	114					
Morocco (Spanish)	C	400	1					
Nigeria	C	11						
Mozambique	C	1						
Rhodesia, northern	C	14						
Senegal	C	2						
Sierra Leone	C	3						
Tunisia	C	297	59		6		28	
Union of South Africa	C	3,778						
ASIA								
Afghanistan	C	520						
Arabia: Western Aden Protectorate	C				1	7		
China: Shanghai	C	12						
India	C	1,066						
Iran	C	9,187						
Iraq	C	1,423			1			
Palestine	C	320	20	5				
Syria and Lebanon	C	89	1					
Trans-Jordan	C	17						
EUROPE								
Bulgaria	C	1,822						
France—Seine Department	C	2						
Germany	C	[1] 973						
Greece	C	[2] 30						
Hungary	C	831	135	46			[3] 160	
Irish Free State	C	20						
Netherlands	C	3						
Portugal	C	9	2					
Rumania	C	7,456	985			443	391	
Slovakia	C	597	40		30			
Spain	C	613						
Turkey	C	4,111						
NORTH AMERICA								
Cuba	C	1						
Guatemala	C	1,215	119					
Jamaica	C	31	2					
Mexico	C	1,034						
SOUTH AMERICA								
Brazil	C	1						
Chile	C	233	5	2				
Colombia	D	2						
Ecuador	C	337	5					
Peru	C	15						
Venezuela	C	23						
OCEANIA								
Australia	C	106	12	5	1	5	1	
Hawaii Territory	C	59	7	3	2	1		4

[1] For the period Jan. 1 to Apr. 30, 1943.
[2] For the period Aug. 21 to Oct. 10, 1943.
[3] For 3 weeks.

YELLOW FEVER

[C indicates cases; D, deaths; P, present]

Place		January–November 1943	December 1943	January 1944—week ended— 1	8	15	22	29
AFRICA								
Belgian Congo:								
Bondo	D	3						
Kinzao	D	1						
Leopoldville	C	2						
Stanleyville	D	1						
Yanonge	C	1						
British East Africa: Kenya—Kisumu	C	1						
Dahomey:								
Djougou District	C	[1] 2						
Natitingou	C	[1] 1						
French Guinea:								
Baccoro	C	1						
Dubreka	C	1	1					
Friguiagbe	C	1						
Matakang Island	D	1						
Gold Coast:								
Asubol	C	1						
Komenda	C		1					
Tamale	C				[1] 1			
Ivory Coast:								
Abidjan	C	1	2					
Aboisso	C		[1] 1					
Bonoua	C		1					
Soubre	C		1					
Toumodi	D	[1] 1						
Portuguese Guinea	C	P	3					
Senegal:								
Goudiri	D	1						
Kolda	C	1						
Tambacounda	C	2						
Velingara Casamance	C	1						
Sierra Leone: Galinas	C		[1] 1					
EUROPE								
Portugal: Lisbon.[2]								
SOUTH AMERICA								
Brazil: Para State	D	1						
Colombia:								
Boyaca Department	D	11	3					
Cundinamarca Department	D	4	3					
Intendencia of Meta	D	7	2					
Santander Department	D	1						

[1] Suspected.

[2] According to information dated January 21, 1944, it is reported that a vessel which called at the islands of Sao Tome and Cape Verde arrived at Lisbon, Portugal, with cases of yellow fever on board.

DEATHS DURING WEEK ENDED FEBRUARY 12, 1944

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Feb. 12, 1944	Corresponding week 1943
Data for 89 large cities of the United States:		
Total deaths	9,249	9,766
Average for 3 prior years	9,479	
Total deaths, first 6 weeks of year	63,731	60,565
Deaths under 1 year of age	544	692
Average for 3 prior years	578	
Deaths under 1 year of age, first 6 weeks of year	3,735	4,300
Data from industrial insurance companies:		
Policies in force	66,284,960	65,348,380
Number of death claims	14,017	10,847
Death claims per 1,000 policies in force, annual rate	11.1	8.7
Death claims per 1,000 policies, first 6 weeks of year, annual rate	12.3	10.7